

## PATENT COOPERATION TREATY

## PCT


## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 23 NOV 2005

PCT

Applicant's or agent's file reference SMC 60636/WO	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. PCT/GB2004/005125	International filing date (day/month/year) 06.12.2004	Priority date (day/month/year) 18.12.2003
International Patent Classification (IPC) or national classification and IPC C07C309/50, C07D251/20, C09B62/09		
Applicant AVECIA INKJET LIMITED		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand  10.10.2005	Date of completion of this report  22.11.2005	
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  O'Sullivan, P  Telephone No. +31 70 340-	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/005125

---

**Box No. I Basis of the report**

---

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements**\* of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-31 as originally filed

**Claims, Numbers**

1-21 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/005125

**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
- ☐ the entire international application,
  - ☒ claims Nos. 1-6, 13 partially
- because:
- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
  - ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
  - ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
  - ☒ no international search report has been established for the said claims Nos. 1-6, 13 partially
  - ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
    - the written form ☐ has not been furnished
    - ☐ does not comply with the standard
    - the computer readable form ☐ has not been furnished
    - ☐ does not comply with the standard
  - ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
  - ☐ See separate sheet for further details

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/005125

---

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

---

1. Statement

Novelty (N)	Yes: Claims	1-21
	No: Claims	
Inventive step (IS)	Yes: Claims	1-21
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

---

**Box No. VIII Certain observations on the international application**

---

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Re: Item III**

The initial phase of the search revealed a very large number of documents relevant to the issue of novelty of claims 1-6. So many documents were retrieved that it is impossible to determine which parts of the claims may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, a meaningful search over the whole breadth of the claims is impossible. Consequently, the search has been restricted to the compounds of claims 7-16 and their use according to claims 18-21. Nevertheless, some of the documents found relevant to the novelty of claims 1-6 and 18-21 are cited in the Search Report.

Additionally, the search of claim 13 has been restricted to the subject-matter encompassed by claims 14 and 15. Claim 13 is not considered supported as required by Art 6 PCT. The disclosure of the single triazyl exemplified in the description does not support a claim comprising a heterocycle which is optionally substituted by any substituent.

The examination is consequently restricted to searched subject-matter.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: US-A-5 759 247 (GREGORY ET AL) 2 June 1998 (1998-06-02)
- D2: US-B1-6 190 423 (SCHUMACHER CHRISTIAN ET AL) 20 February 2001  
(2001-02-20)
- D3: US-A-5 756 693 (KENYON ET AL) 26 May 1998 (1998-05-26)
- D4: WO 97/27250 A (ZENECA LIMITED; TAYLOR, JOHN, ANTHONY) 31 July  
1997 (1997-07-31)
- D5: US-A-5 075 428 (JAEGER ET AL) 24 December 1991 (1991-12-24)
- D6: EP-A-0 406 629 (BAYER AG) 9 January 1991 (1991-01-09)
- D7: US-A-5 359 042 (JAEGER ET AL) 25 October 1994 (1994-10-25)
- D8: US-A-5 883 234 (MENNICKE ET AL) 16 March 1999 (1999-03-16)

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/GB2004/005125

- D9: WO 98/20077 A (CLARIANT FINANCE LIMITED; CLARIANT INTERNATIONAL LTD; NUSSER, RAINER) 14 May 1998 (1998-05-14)  
D10: US-A-5 824 785 (BAETTIG ET AL) 20 October 1998 (1998-10-20)  
D11: US-A-5 599 386 (SANO ET AL) 4 February 1997 (1997-02-04)

None of the compounds claimed in current claims 7-17 have been described in the prior art D1-D11. The subject-matter of claims 7-21 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as the provision of alternative dyes for use in ink-jet printing.

The solution to this problem proposed in claims 7-17 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons: the prior art does neither teach nor suggest the use of the alternative compounds proposed such as those of the present claims for said use.

**Re Item VIII**

1. The definition of a set of compounds using the term "free from fibre reactive groups" is not considered clear as required by Art 6 PCT in that the skilled person cannot unambiguously determine which compounds fall under the scope of this claim.
2. Claim 16 depends on claim 14- this appears to be incorrect (should depend on claim 15)